DOCUMENT RESUME

ED 174 118 HE 011 460

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TITLE The Myth of the All-University GPA: An Analysis of Sources of Apparent Grade Inflation. AIR Forum 1979 Paper.
PUB DATE May 79
NOTE 19p.; Paper presented at the Annual Forum of the Association for Institutional Research (19th, San Diego, May 13-17, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Standards; Comparative Analysis; *Departments; *Grade Inflation; *Grade Point Average; Grades (Scholastic); Higher Education; *Institutional Research; Longitudinal Studies; State Universities
IDENTIFIERS *AIR Forum 1979; *Humboldt State University CA

ABSTRACT

Grade distribution patterns at Humboldt State University in California were examined over a five-year period on the basis of mode of instruction and by academic department. The grade distributions for each academic department were compared with the other departments within the same school, and the distribution for each school was compared with other schools within the university. The variability of departmental grade distributions within even the smallest school was so great that statistically nearly every distribution was significantly different from the sum of the other departments, and, without exception, each school was significantly different at the one percent level from the remaining university grade distribution. Although there was great variability among schools, the schools were remarkably consistent over time. The study data indicate that the individual schools are operating with some sort of grade standards and that the idea of an all-university grade point average is very misleading. (SW)

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ED174118

THE ASSOCIATION FOR INSTITUTIONAL RESEARCH

This paper was presented at the Nineteenth Annual Forum of the Association for Institutional Research held at the Town and Country Inn in San Diego, California, May 13-17, 1979. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of Forum papers.

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THE MYTH OF THE ALL-UNIVERSITY GPA

AN ANALYSIS OF SOURCES OF

APPARENT GRADE INFLATION

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Paper Presented at the Annual Forum of
the Association for Institutional Research

May 1979

INTRODUCTION

For the last few years the Trustees and the System Central Office of the California State University and Colleges have been expressing their displeasure with what has come to be called grade inflation. They use as their point of reference the all-university grade point average, which is the weighted mean of all the A - F grades awarded. They do this each year for each unit of the system. Their displeasure has been expressed in various reports, admonitions and requests for information from the several campuses. These activities have resulted on this campus in various exhortations by the academic vice president and the school deans. The individual departmental responses have varied from the imposition of strict grading practices to cries of academic freedom and no action.

In the Fall of 1977, the President of the University asked the Director of Institutional Research to conduct a study of the grade distribution patterns... which illuminate any changes of academic standards...over the last five years. Institutional Research has long provided the President's Office with a print-out at the end of each term of the grades awarded by each instructor as well as departmental, school and university weighted means. This practice has resulted in a mass of data that was useful in some cases to the President, but because of its mass did not answer the question as to the cause of the apparent grade inflation. In an understanding between the President's Office and Institutional Research, it was agreed that we would attempt to answer the grade inflation question using several different control variables, namely: 1) level of instruction; 2) mode of instruction; 3) discipline.

Because of file data specification changes over time by the Computer Center, it would have required a great deal of programming time and expense by the personnel of the Computer Center to print out grades by level, by mode of instruction. As a consequence, the understanding with the President's Office was modified and the study was limited by the last two variables listed above. The results, then, will be reported on the basis of mode of instruction and by academic department (discipline).

METHOD OF THE STUDY AND MAJOR FINDINGS

Our first effort in the study of the grade distribution patterns was to discover if there were statistically significant differences between the grade distribution for an academic department compared with the other departments within the same school. In order to accomplish this, the number of A - F[1] grades awarded by the department was subtracted from the total number of A - F grades awarded by the school. The resulting distributions were then compared using a chi-squared test of significance. This procedure was first used on grade distributions for Mode 1 instruction[2]. The Mode 1 courses are basically academic-type lecture courses or lecture courses with associated laboratories. To say the results of this analysis were surprising would be an understatement. We knew at the onset of the study that there was great variability across the university in the grades awarded, but we felt there would be some consistency within the schools. However, the variability of departmental grade distributions within even the smallest school was so great that statistically nearly every distribution was significantly different from the sum of the other departments. Occasionally, over the fifteen quarters studied, we found a departmental distribution that was not different from the school distribution, but this could be considered to be chance variation.

In our next effort we compared the school grade distributions for Mode 2 courses with the university distribution for each quarter using the same procedures above that we used for departments. This time, without exception, each school was significantly different at the one percent level from the remaining university grade distribution. The School of Behavioral and Social Science (B & SS), Creative Arts and Humanities (CA & H), Health and Physical Education (H & PE) and Independent Studies and Special Programs (ISSP) were significantly higher. Business and Economics (B & E), Natural Resources (NR) and Science (SCI) were significantly lower. It appears that the all-university GPA is a myth that conceals much more information than it displays. It is akin to attempting to determine the average height of the African male by measuring only Pygmies and Watusi and reporting that average as 5'8".

It was felt at this point in the study that it would be both appropriate and instructive to display the above noted variability. The weighted mean of A - F grades awarded for each school, hereafter called the GPA for simplicity's sake, was computed for each of the fifteen quarters as well as the university GPA for each quarter. The results of each computation are displayed in Tables 1 through 4. The number in parenthesis are the number of A - F grades awarded for that quarter. Table 1 displays this data for Mode 1 courses, which are basically courses that award one hour of credit for one hour of instruction, except for the laboratory segment of the lecture-laboratory courses. See footnote 2. Table 2 displays Mode 2 courses (two hours of instructional activity for each hour of credit), Table 3 displays Mode 3 courses (three hours of instructional activity for each hour of credit) and Table 4 displays Mode 4 courses in which the hours of instruction varies per hour of credit.

Since it is obvious from Tables 1 - 4 that the GPA varies not only by school but also by mode of instruction, it was felt that to display this variability would be further instructive. Table 5 displays the university GPA by mode of instruction. The Number of Grades column refers to the number of A - F grades awarded. The Percent of Total Grades column indicates the percentage of grades awarded in that course classification. The cGPA column accumulates GPA's over the modes of instruction.

The Fall 1973 grouping of Table 5 indicates that there were 18,209 grades awarded in the Mode 1 category and that that category constituted 75% of the A - F grades awarded. The next row indicates that there were 3,106 A - F grades awarded in the Mode 2 category, they constituted 15% of the A - F grades awarded, and raised the university grade point average from 2.91 to 2.99. The third row indicates that there were 389 Mode 3 grades awarded, which were 2% of the total and raised the grade point average to 3.0. Row four indicates that there were 1,521 Mode 4 grades awarded, which were 8% of the total and raised the university grade point average to 3.04.

TABLE 1

GRADE POINT AVERAGES BY SCHOOL[3]

Mode 1 Courses

	Fall 1973		Winter 1975		Spring 1976	
School	GPA	Number of Grades	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.08	(4540)	3.12	(4428)	3.14	(3538)
B & E	2.70	(1526)	2.84	(1441)	2.84	(1317)
CA & H	3.04	(4210)	3.06	(4079)	3.04	(3624)
NR	2.68	(2403)	2.75	(2712)	2.60	(2482)
SCI	2.77	(4625)	2.75	(5036)	2.74	(4846)
H & PE	3.12	(631)	3.16	(543)	3.15	(621)
ISSP	3.24	(274)	3.41	(437)	3.51	(369)
UNIVERSITY	2.91	(18209)	2.94	(18678)	2.91	(16797)

	Fall 1976		Winter 1978	
School	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.06	(4110)	3.13	(4028)
B & E	2.77	(1271)	2.73	(1463)
CA & H	3.04	(4220)	3.05	(3892)
NR	2.65	(2883)	2.64	(2978)
SCI	2.76	(5173)	2.73	(5706)
H & PE	3.30	(652)	3.19	(639)
ISSP	3.43	(364)	3.52	(293)
UNIVERSITY	2.91	(18673)	2.90	(18999)

TABLE 2

GRADE POINT AVERAGES BY SCHOOL[3]

Mode 2 Courses

	Fall 1973		Winter 1975		Spring 1976	
School	GPA	Number of Grades	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.03	(88)	3.30	(93)	3.31	(68)
CA & H	3.40	(1257)	3.46	(1472)	3.39	(1380)
SCI	3.58	(26)	3.61	(31)	3.48	(21)
H & PE	3.53	(1735)	3.51	(1829)	3.58	(2087)
UNIVERSITY	3.47	(3106)	3.49	(3425)	3.50	(3556)

	Fall 1976		Winter 1978	
School	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.09	(82)	2.79	(57)
CA & H	3.36	(1349)	3.34	(1360)
SCI	3.55	(31)	3.29	(7)
H & PE	3.61	(1797)	3.42	(1581)
UNIVERSITY	3.49	(3259)	3.37	(3010)

TABLE 3

GRADE POINT AVERAGES BY SCHOOL[3]

Mode 3 Courses

	Fall 1973		Winter 1975		Spring 1976	
School	GPA	Number of Grades	GPA	Number of Grades	GPA	Number of Grades
SCI	3.40	(130)	3.27	(142)	3.31	(190)
H & PE	3.19	(248)	3.07	(250)	3.11	(257)
UNIVERSITY	3.26	(378)	3.16	(400)	3.19	(447)

	Fall 1976		Winter 1978	
School	GPA	Number of Grades	GPA	Number of Grades
SCI	3.37	(206)	3.29	(201)
H & PE	3.17	(254)	3.44	(64)
UNIVERSITY	3.26	(460)	3.35	(265)

TABLE 4

GRADE POINT AVERAGES BY SCHOOL[3]

Mode 4

	Fall 1973		Winter 1975		Spring 1976	
School	GPA	Number of Grades	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.57	(178)	3.84	(212)	3.77	(325)
CA & H	3.60	(928)	3.68	(911)	3.68	(967)
NR	3.79	(29)	3.80	(60)	3.84	(62)
SCI	3.71	(48)	3.54	(57)	3.66	(113)
H & PE	3.86	(337)	3.89	(304)	3.88	(147)
UNIVERSITY	3.66	(1521)	3.74	(1550)	3.76	(1614)

	Fall 1976		Winter 1978	
School	GPA	Number of Grades	GPA	Number of Grades
B & SS	3.82	(308)	3.76	(178)
CA & H	3.70	(904)	3.70	(806)
NR	3.81	(32)	3.90	(50)
SCI	3.88	(43)	3.75	(55)
H & PE	3.68	(332)	3.87	(248)
UNIVERSITY	3.77	(1619)	3.75	(1337)

TABLE 5

CONTRIBUTION OF TYPE OF COURSE TO THE UNIVERSITY GPA BY QUARTER (1973 - 1978)

	Fall 1973				Winter 1974				Spring 1974			
Mode	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA
1	2.91	18209	75		2.92	18225	77		2.98	16722	71	
2	3.47	3106	15	2.99	3.38	3395	14	2.99	3.51	3454	17	3.07
3	3.26	389	02	3.00	3.17	398	02	3.00	3.22	462	02	3.07
4	3.66	1521	08	3.04	3.76	1574	07	3.05	3.71	1706	09	3.12

	Fall 1974				Winter 1975				Spring 1975			
Mode	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA
1	2.92	19125	79		2.94	18678	78		2.99	16874	76	
2	3.44	3267	13	3.00	3.49	3425	14	3.03	3.51	3313	15	3.08
3	3.27	393	02	3.00	3.16	400	02	3.03	3.38	430	02	3.08
4	3.74	1481	06	3.05	3.74	1550	06	3.07	3.77	1581	07	3.13

	Fall 1975				Winter 1976				Spring 1976			
Mode	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA
1	2.91	19480	79		2.90	19076	78		2.91	16797	75	
2	3.43	3008	12	2.98	3.53	3315	14	2.99	3.50	3556	16	3.01
3	3.38	470	02	2.99	3.27	406	02	3.00	3.19	477	02	3.02
4	3.75	1637	07	3.04	3.82	1690	07	3.05	3.76	1614	07	3.07

	Fall 1976				Winter 1977				Spring 1977			
Mode	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA
1	2.91	18674	78		2.93	18403	77		2.97	16847	76	
2	3.49	3259	14	3.00	3.40	3259	14	3.00	3.48	3311	15	3.05
3	3.26	460	02	3.00	3.10	529	02	3.00	3.14	432	02	3.06
4	3.77	1619	07	3.05	3.81	1648	07	3.06	3.85	1438	07	3.11

	Fall 1977				Winter 1978				Spring 1978			
Mode	GPA	No of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA	GPA	No. of Grades	% of Total Grades	cGPA
1	2.86	19905	81		2.90	18999	80		2.89	16992	85	
2	3.31	3320	13	2.92	3.37	3010	13	2.96	3.21	1488	07	2.92
3	3.42	327	01	2.93	3.35	268	01	2.97	3.23	351	02	2.92
4	3.76	1086	04	2.97	3.75	1337	06	3.01	3.79	1212	06	2.97

DISCUSSION

It can be seen from inspection of Tables 1 - 4 that although there is great variability among schools, the schools are remarkably consistent over time. There's a slight GPA rise from the Fall to the Spring Quarter, which is attributable to two factors; more majors versus general education courses are taught in the Spring than in the Fall Quarter, and some of the less well-prepared students have dropped by the way-side. The consistency within the schools would seem to indicate that the schools are operating with some sort of standards. Whether these standards are explicit or implicit, and whether they reflect the philosophy of the University is another question.

These tables further demonstrate why general exhortations about the evils of grade inflation to the faculty are not effective. To tell the instructor of a lecture course in the School of Natural Resources that he has inflated grades is simply not true and tends to discredit the whole concept of grade inflation. Certainly some of the schools' GPA's are higher than the control authorities would desire, but general exhortations to the faculty have proved to be of little value.

This study, in the opinion of the authors, suggests that there are at least four reasons for the apparent grade inflation; three of them systematic and one of them psychological. The first and probably the most difficult to deal with is the lack of measurable content in many courses. A drama coach in charge of a major university production, a PE coach of an intercollegiate athletic team or a supervisor of student teachers is put in an awkward position when the university or the department insists that letter grades be awarded for these activities. What measurable, observable instructional objectives can be used to determine the student's final grade? They are

working on different aspects of the course, they are accomplishing different goals, yet all contribute to the final success of the program, production or game. How do you grade? The question is then asked, why not grade these courses on a credit-no credit basis? Inevitably there then arises the old argument that my course is as academic as your course, and just because you teach the history of western civilization why should your students get grades and my students get credit or no-credit marks. Many instructors put in the position of awarding letter grades for courses in which there are no measurable or observable objectives award them on the basis of attendance or participation, which sometimes results in the nasty "blanket A."

The second systematic reason is the level and discipline of the course. There are selected courses in some disciplines, at least on this campus, that are open only to upper division majors. These majors are students who have withstood the rigors of the lower division courses, are interested in and have some ability in the field of study. Is it appropriate, then, to grade them to some arbitrary standard? Do you grade a class of hard-working, dedicated preprofessionals on the curve? Most instructors, apparently, do not.

The third systematic reason is a lack of comparability. How does one grade a student who has worked arduously and to the limits of his ability on an independent study project, an independent study project the instructor has approved and probably helped design and worked along with the student over the length of the term. Can a student be told, when grades come, that his hard work is worth only a C grade? A C compared to what? On what basis would such a decision be made?

In our opinion, the effects of these three systematic reasons can be seen in reference to Tables 2, 3 and 4.

The psychological reason is difficult to state explicitly and is composed of at least two elements. It appears to us from perusal of the first four tables that those schools with many courses in which grades could be influenced by the systematic effects are also those schools which award high grades in the "academic courses." It may be that those instructors who are asked to award grades for courses in which there are no measurable objectives would be inclined to develop a set against strict classroom grading. Grades may tend to lose their value with this type of individual. Also there is the apparent halo effect. A student awarded high grades in those courses which are influenced by the systematic effects mentioned above may also receive undeservedly high grades in those academic-type courses taught by the same instructor.

In the early history of the higher education in the United States, the courses taught by the faculty of the universities and colleges were courses that were heavy in cognitive content. Sports and drama were outside confines of the university curriculum. It may be appropriate to grade cognitive (academic) type courses on the basis of A - F grades, but as sports and drama and other activities are added to the curriculum, is it appropriate to grade these on the same basis as the cognitive type courses? This is apparently a question that was not asked, nor, until recently, has there been any attempt to answer it. Courses were added, and especially during the 1960's different types of courses were added, and letter grades were awarded whether this type of grading was appropriate or not. In order to answer this question as to what type of grading is appropriate for what type of learning, and to

combat the perceived systematic effects noted above, the Educational Policies Committee of the Academic Senate of Humboldt State University informed the faculty in the Fall of 1977 that in order to award letter grades for activity classes, they must have stated measurable objectives for each of those courses (the resolution is appended). They were further informed that they must present those objectives to and receive approval from the University Curriculum Committee. This had the effect, when the dust settled, of raising the percentage of Mode 1 courses from approximately 76% to 81% and a significant reduction in the University GPA. It had the additional effect of reducing the grade point average in Mode 1 courses, which would give some credence to the psychological effect noted above. It also had the salutary effect of moving us from second or third on the Chancellor's yearly list to below the median on that list. Have the academic standards really changed? Or have we finally brought a little semblance of reason and order to the grading process?

FOOTNOTES

[1]A - F grades are the only ones used in this study, since they are the only grades that affect the grade point average. Credit-No Credit and administrative grading symbols are not used in GPA computations. In addition, the number of grades was used instead of the grades multiplied by the course credit hours. It was found, by inspection, that there is less than a 1% difference between the two methods of computing the GPA and it simplified computation to use the first mentioned method.

[2]The California State University and Colleges Course Classification System:

Course Classification Number	Description	Weekly Class Hours Per Unit of Credit
Mode 1	large lecture	1
	lecture discussion	1
	lecture composition	1
	lecture counseling	
	lecture-case study	
	discussion	1
	seminar	1
	clinical processes	1
Mode 2	fine arts and science activities	2
	education workshops and social science activities	2
	music activity - large group	2
	music activity - small group	2
	physical education and recreation activities	2
	speech, drama & journalism activities	2
	technical activities and laboratories	2
	remedial courses	2
Mode 3	technical activities and laboratories	3
	science laboratories	3
	clinical practice off campus	3
Mode 4	major intercollegiate sports (not more than four per year)	3 or more
	minor intercollegiate sports	3 or more
	major performance	3 or more
	music performance	3 or more
	social work supervision	N/A
	practice teaching, workstudy, thesis and projects	N/A
	independent study, field work, studio instruction, supervised activities	N/A
	independent study, studio instruction, supervised activities	N/A
	peer-taught courses, ROTC or non-workload instruction	varies

FOOTNOTES, continued

[3] In accord with Instructions for Forum Publications/Authors, only selected tables are presented. The computations were done for each academic quarter of the five-year period, and are available from the authors.

Appendix:

6. Resolution regarding Grading and Personnel Decisions (From Educational Policies Committee) — GRADING & PERSONNEL DECISIONS RESOLUTION

It was moved to adopt this resolution. M/S (Bright-Hofmann)

The previous question was moved. M/S/P (Craigie-Bright)

A vote was taken and the motion failed.

7. Resolution regarding Grading and Activity Classes (From Educational Committee — GRADING & ACTIVITY CLASSES

It was moved to adopt this resolution. M/S/P (Bright-Erskine)

Resolved, That in classes customarily viewed as activity, as opposed to academic classes, the grading procedure should be mandatory credit, no credit. If there is a doubt as to whether or not a course belongs in the category of "activity" courses, the University Curriculum Committee is empowered to make the decision.

8. Resolution regarding Grades and Transcripts (From Educational Policies Committee — GRADES & TRANSCRIPTS

It was moved to adopt this resolution. M/S (Bright-Pequegnat)

It was moved to refer this matter to a special committee appointed by Chairman Myers. M/S/P (Bright-Erskine)

Meeting adjourned at 5:37 p.m.